Project Title

Video Conferencing vs Face-to-Face (F2F) Quality Improvement (QI) Training

Project Lead and Members

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Organisation(s) Involved

SingHealth HQ, SingHealth Duke-NUS Academic Medical Centre

Healthcare Family Group Involved in this Project

Healthcare Administration

Applicable Specialty or Discipline

Institute for Patient Safety & Quality

Aims

This aim of this project is to demonstrate the effectiveness of Video Conferencing QI Training during the COVID-19 pandemic.

Background

See poster appended / below

Methods

See poster appended / below

Results

See poster appended / below

Conclusion

See poster appended / below

Additional Information

Singapore Healthcare Management (SHM) Conference 2021 – Shortlisted Project (Human Resource Category)

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Video Conferencing vs Face-to-Face Quality Improvement Training

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1. BACKGROUND

Traditionally, Quality Improvement (QI) Training was done face-to-face (F2F) to allow interactions among learners to maximize learning outcome.

Fig. 1: Face-to-Face QI Training

However, safe social distancing measures implemented in the face of the COVID-19 pandemic prevented any face-to-face training from taking place. As QI training is a critical programme that is needed among SingHealth staff, there is a need for IPSQ to continue delivering QI training virtually during the pandemic.

2. OBJECTIVE

This poster aims to demonstrate the effectiveness of Video Conferencing QI Training during the COVID-19 pandemic.

3. METHODOLOGY

Various modes of conducting QI training virtually were explored, which included e-learning, pre-recorded lectures. Live video conferencing was chosen because it contains features that help to foster interaction among learners such as polling, chat boxes, annotations, breakout rooms etc, Fig. 2.

Fig. 2: Video Conferencing QI Training

As the training is blended, learners were also provided with pre-training reading materials and had to complete e-learning modules before attending the training. During the first training held on 28 April 2020, learners were exposed to didactic lectures, group discussions, games, polls, and quizzes to provide different channels for knowledge retention.

The following outcome indicators were used to determine the effectiveness of Video Conferencing QI Training:

- Learners' demographics and reaction to the new teaching approach via post-workshop evaluation survey
- Learners' gain of QI knowledge via pre- and post-training QI quizzes

Non-parametric Wilcoxon test was used to compare between pre- and post-workshop QI quiz scores using Statistical Product and Service Solutions (SPSS 28.0).

4. RESULTS

Workshop Evaluation Survey

Ten runs of the video conference QI training had been successfully conducted with 189 participants trained. Out of the 184 participants who participated in the workshop evaluation survey, 170 (92.4%) of the learners agreed that the Video Conferencing platform was convenient, 161 (87.5%) felt that the platform was effective in delivering content and 178 (96.7%) were keen to use the video conferencing tools for training during disease outbreak situations.

Though the survey questions asked in the F2F and Video Conferencing QI Trainings were different to a large extent, we identified a single question on learners' overall satisfaction of the F2F QI Training to compare with learners' reactions to the Video Conferencing QI Training. The overall satisfaction rating for F2F QI training showed that 60 out of 63 learners (95.0%) were satisfied. We could infer that learners were satisfied with both F2F and Video Conferencing QI Trainings.

From the data analysis shown in Fig.3 and Table 1, the difference between pre- and post-workshop QI quiz scores was statistically significant for both Video Conferencing (p-value <0.001, n=189) and F2F QI trainings (p-value < 0.001, n=63) via the Wilcoxon test.

Pre- and Post-workshop Quiz

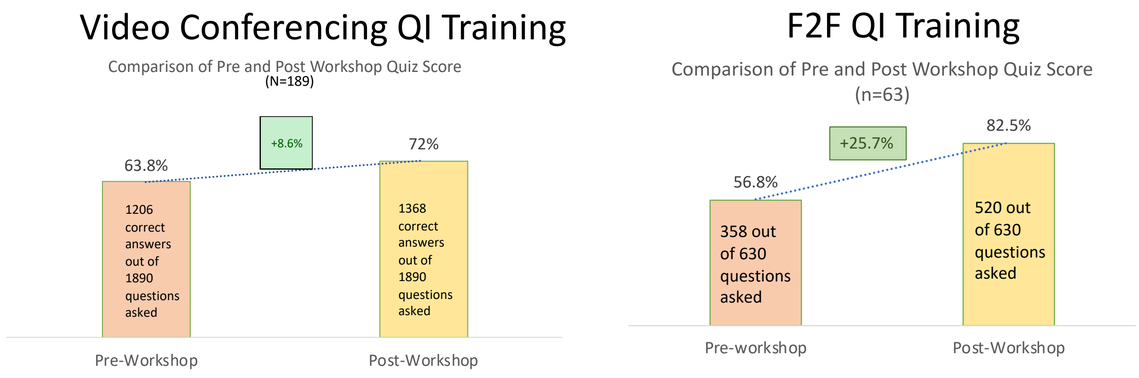

Fig. 3: Virtual and F2F QI Training Quiz Comparison

Types of QI Training	N	Pre –workshop (Correct Answers)			Post-workshop (Correct Answers)		
		Mean	Median	Std. Deviation	Mean	Median	Std. Deviation
Total	252	6.21	6.00	1.30	7.49	8.00	1.50
Video conferencing	189	6.38	6.00	1.21	7.24	7.00	1.53
F2F	63	5.68	6.00	1.43	8.25	8.00	1.12

Table 1: Mean, Median and Standard Deviation Comparison

5. CONCLUSION

Both F2F and Video Conferencing QI Trainings provide a positive gain in learners' knowledge based on the pre- and post-workshop quiz score analysis. The responses from the workshop evaluation surveys showed that learners were satisfied with both F2F and video conferencing approaches.

6. FUTURE PLANS

The video conferencing QI training will continue to be the default mode of training as we co-live with the COVID-19 pandemic. The F2F training will resume when the safe management measures permit it.